

A Radical Interpretation of Bands as Variable Embodiments

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This chapter proposes an interpretationist perspective on the ontology of bands. According to this viewpoint, the role of an idealised interpreter is to articulate the specific conditions and facts that enable the classification of a group of entities as a music band, alongside the criteria for classifying bands as agentive collectives. In order to offer a comprehensive account of bands over time, the approach involves the interpreter attributing a temporal structure to the collective, which draws from an adaptation of Kit Fine's theory of variable embodiment for collective entities. Within this framework, the chapter addresses various ontological issues regarding bands, including the question of whether bands exist as entities independent of the mind, the potential for elements within bands to change and the conceivable discontinuous existence of bands.

5.1. Introduction

Bands do things, primarily focused on creating music. Additionally, they organise concerts, deliver live performances, record songs, aspire to gain popularity, believe in their innovativeness, regret publishing an album and more. In everyday language, we commonly attribute beliefs, desires, goals and actions to bands. Within philosophical terminology, bands demonstrate agency.

In this chapter, we explore the conditions for attributing attitudes and actions to bands, considering them as collective entities. The assumption that bands possess agency underlies this chapter. This assumption is motivated by two reasons. Firstly, if we were to reject the idea of bands as agentive entities, it would necessitate a substantial revision of ordinary discourse concerning bands. This would involve rephrasing all statements about a band's agency into statements about the agency of the individual members belonging to the band, presupposing

individuals do possess agency. Secondly, as we will explore, agency serves as a unifying principle that individuates a band from larger, or smaller, collections of entities.

For those reasons, we propose to elucidate the agentic nature of bands by setting up a minimal view of agency that aligns with the usual ascriptions of agentic aspects to bands.

As a preliminary observation, the perspective presented in this chapter assumes that bands are a type of organisation, inherently social entities. This approach facilitates the examination of shared characteristics among various other agentic collective entities while temporarily setting aside, at least within this chapter, any assumptions regarding music and its definition. The ontology of music is treated here as a kind of ‘black box’, a theory that experts in the field can unpack and integrate into the proposed framework.

Anticipating, bands are collective entities categorised as organisations, primarily engaged in music-related activities. By conceptualising bands as organisations, we do not preclude scenarios such as the case of the band we formed during high school that never progressed beyond rehearsals in my parents’ garage. To prevent an excessive proliferation of group nomenclature here, a topic deserving dedicated study, this work continues to refer to loosely institutionalised entities as ‘organisations’ while acknowledging that the literature on social ontology employs more specific terminology such as ‘informal groups’ or ‘social groups’.

The portrayal depicted in this chapter comprises three main elements. Firstly, in Section 5.2, we will delve into establishing a theoretical foundation for attributions of beliefs, desires, intentions and goals, as well as introduce the concept of actions of a collective entity. This will involve discussing the notion of collective attitude as presented by List (2014) and List and Pettit (2011), along with the concept of collective action discussed in social ontology.

Secondly, in Section 5.3, to account for the nature of collective entities and to determine which actions of individuals can be attributed to the collective, we will employ the notion of the collective *qua* entity. This concept has been developed, notably in Brouwer et al. (2021), building upon the contributions of Fine (1999, 2020, 2022) and Uzquiano (2018). Additionally, to trace the temporal existence of collective entities, we will adopt the theory of rigid and variable embodiments, as outlined in Fine (1999, 2020).

Thirdly, in Section 5.4, to incorporate the two preceding aspects, we will employ the philosophical construct of the radical interpreter, originating in the works of Dennett (1971) and Lewis (1974), and subsequently elaborated upon by Williams (2016, 2020) and Tollefsen (2002, 2006).

According to this framework, an idealised interpreter collects pertinent information about the collective entity and its temporal existence, determining whether the entity exhibits agency and qualifies as a music band.

Section 5.5 is dedicated to discussing the role of the idealised interpreter, particularly in relation to the prospect of regarding bands as mind-independent (or interpreter-independent) entities.¹

5.2. Collective Things That Bands Do

One way of understanding what a collective believes, desires, or simply does is by means of the notion of a *collective attitude*, discussed by Christian List (2014).

Traditionally, a propositional attitude is a relation between an individual (here, possibly, an agent²) and a proposition. For example, a belief attitude is a relation between an agent and a proposition, the proposition that is believed.

The setting of propositional attitude is traditionally carried out to distinguish between the content of the attitude, which can then be accessed intersubjectively (as a proposition describing a state of affairs), and the attitude itself (belief, desire, regret, preferences, intention, etc.) towards the proposition.

A collective propositional attitude, or simply *collective attitude*, is a propositional attitude that is ascribed to a collective entity. We use the term *collective entity* in a quite general sense, to indicate an entity that is substantially related to a set, or a collection, or a mereological sum, or a plurality of entities.³ A parliament, a queue, a sample of pages from a book, a forest, an orchestra, a band are then collective entities. Christian List distinguishes three kinds of collective attitude, depending on how we ascribe the attitude to the collective entity.

Aggregate attitudes are ascribed to a collective entity by means of a certain *aggregation procedure* (e.g., majority, plurality, unanimity, average estimate, etc.). The procedure allows for eliciting an attitude of the collective from the attitudes of the members of the collective.

Common attitudes are ascribed to a collective entity whenever all the members of the collective have those attitudes. The notion of a common attitude is related to of the familiar notion of common knowledge in Decision Theory

and Game Theory, where sometimes it is also required, for being a common attitude, the common belief that all the members of the collective have those attitudes.

Finally, *corporate attitudes* are ascribed to a collective entity when we assume that the collective entity is a fully fledged agent and not a mere collection of individual agentive entities. Whenever a collective entity displays behaviour that is unified, or coherent, enough to be aptly described as the behaviour of a single agent, then it may make sense to enquire what that agent believes, desires, plans, etc. and does.

We focus here on corporate attitudes, as we are going to intend bands as agentive entities. The three kinds of collective attitudes manifest overlapping. Common attitudes might be described in terms of aggregate attitudes, by imposing unanimity as the sole valid aggregation procedure that ascribes the attitudes to the collective. Moreover, we could use an aggregation procedure to ascribe a corporate attitude to a collective entity, that is, the majority rule (provided it returns consistent outcomes (cf. List and Pettit, 2011)).

The important point is that, while for common and aggregate attitude talking about a collective agent might just be a figure of speech, for corporate attitudes the collective agent must exhibit certain actual features of agency. The ascription of agency is of course a delicate problem in philosophy of action. We shall approach it in Section 5.4, by relying on the role of the radical interpreter, while here we overview the minimal conditions for attributing agency.

In general, we endorse a *functionalist* characterisation of agency, which is compatible both with List's theory of corporate attitudes and group agency and with Williams' interpretationism (or even Dennett's).

In this view, whatever behaves like an agent can be intended as an agent. According to both List and Williams, a minimum level of rationality is necessary to comprehend an entity as an agent.

The minimal requirements of rationality differ between List's perspective on corporate attitudes and Williams' perspective on intentionality, a requirement for agency. In List's view, rationality entails a specific tension towards synchronic coherence among the attitudes of the collective (cf. List and Pettit, 2011). For example, a collective entity to which we can constantly ascribe incompatible or inconsistent beliefs, desires, or preferences, and which, based on those

attitudes, performs incompatible actions, is a sign of a crack in the alleged collective agent. This possibly suggests the presence of two or more (possibly collective) agents.

For Williams, rationality is construed in Bayesian decision-theoretic terms: an entity manifests agency when its behaviour can be interpreted as that of a rational agent maximising the utility of acting toward certain goals (cf. Williams, 2016). The notions of intention and actions are also construed here in decision-theoretic terms: an intention is the result of a decision (based on beliefs, desires and evidence) among alternative options; the action is then the event corresponding to bringing about the decision.

By assuming a modicum of rationality in List's sense, we are assuming that the corporate attitudes ascribed to the band can be described in an almost coherent way. 'Almost' is added to leave room for disagreement also at the level of the collective agent. Disagreements among the individual members of a band are of course always possible; the question here is whether they are to be reflected at the collective level, as stances of the collective.

For instance, we wish to exclude that frequently a band intends 'to play in Rome' and 'not to play in Rome', or desires to 'publish the new album' and 'not to publish the new album'. Frequent disagreements at the collective level are indicative of the emergence of two conflicting agents within the collective entity, potentially signifying a possible fragmentation of the group.

By assuming rationality in Williams' terms, we are simply assuming that bands act by pursuing goals, and in the process of acting, they try to maximise their expected utility.

Violating this condition can once again be interpreted as a sign of the emergence of two or more competing agents, each with different goals, preferences and ways of pursuing their objectives. The two assumptions are different in nature although they are strictly connected. In particular, the minimum level of belief (or attitude) synchronic coherence required by List serves as a prerequisite for Williams, given that beliefs contribute to decisions, and decisions derived from synchronically inconsistent beliefs are scarcely rationalisable in terms of the maximisation of utility functions.

Notice that the assumptions of minimal rationality that we embrace here are not to be intended in a normative sense. They are required here to distinguish a collection of entities as acting as *one* agent from a collection of entities which are acting as *several* agents.⁴

By interpreting bands as agents, we enable the ascriptions of corporate attitudes to them⁵. Statements such as 'Mr Bungle desires to play in Bologna' and 'Mr Bungle believe that Bologna has an interesting music scene' are meaningful ascriptions of propositional attitudes

to an agentive entity, namely Mr Bungle. Corporate attitudes do not necessitate that the collective holds an attitude only if all the members of the collective share it. For instance, a band can desire to play in Rome, while some of its members do share the same desire. The process of establishing a minimal consensus to attribute a collective attitude to the band typically involves negotiation among band members, editors, managers and other relevant parties. This aspect distinguishes bands from institutional organisations (such as the US Supreme Court), where decision procedures are typically explicit and normatively enforced. This characteristic aligns them more closely with less institutionalised social groups.

When discussing bands, whose primary endeavour is playing music together, it becomes necessary to establish a basic understanding of the concept of collective action, as playing can be seen as a sophisticated interweaving of individual actions. In addition to playing, activities such as recording, performing, giving interviews, traveling, disbanding and reuniting can all be interpreted as collective actions of the band. The debate on collective actions or joint actions is rich in social ontology and philosophy of action.

We cannot summarise or address all the main aspects here. For a comprehensive comparison of the view of collective action inspired by Williams' interpretivism and other approaches such as those of Tuomela, Searle and Gilbert, we refer to Brouwer et al. (2021).

Let's begin by illustrating a few ways in which a collective agent, particularly a band, acts. We use the expression 'collective action' to indicate that the action is attributed to a collective entity conceived as an agent.

Firstly, a collective agent might execute an action through certain individuals who are members of the collective, acting on behalf of the whole. For instance, when the bass player of a band performs the bassline, this action is carried out by an individual member of the band (no one else is playing that bass during that specific interval of time) – the person responsible for playing the bass. This action by the bass player is also considered an action performed by the entire band.⁶

Secondly, a collective agent might carry out an action through a subset of the members within the collective, which forms a smaller collective agent operating on behalf of the larger collective. The rhythm section of a band (e.g., bass and drums) plays its part during a live performance on behalf of the band. It demonstrates coordination, intentions and a shared goal – namely, to produce that distinctive rhythm. Therefore, for the duration of the performance, it can be construed as a collective subagent of the band.

Finally, a collective may execute an action through the combined efforts of all its components acting collectively on its behalf. In this scenario, which can be seen as falling into the second case, the live performance of a band exemplifies all members acting together on behalf of the band.

We discussed individual actions in Williams' terms, viewing them as arising from intentions that can be attributed to the agent. In Williams' functionalist perspective, collective intentions can also be understood as outcomes of decisions made among sets of options. This enables the decision-theoretic conception of agency of interpretationism to be extended to the realm of collective actions. The process of attributing intentions to a collective agent necessitates the utilisation of the radical interpreter framework, which we will delve into further in Section 5.4.

In all the preceding cases, we employed the phrase *on behalf of* to indicate actions performed by the members of the collective agent or its subgroups, actions that are considered as contributions to the band's activity. This is crucial because we cannot simply attribute any action of the individual members to the entire collective. For example, when Mike Patton (who was for a period vocalist of both Mr Bungle and Faith No More) plays with Faith No More, his actions do not automatically contribute to the actions of Mr. Bungle. Therefore, it becomes necessary to elucidate the concept of *on behalf of*, which we will approach in the upcoming section.

5.3. Collective *Qua* Entities, Rigid and Variable Embodiments

In this section, we discuss the view of rigid and variable embodiments provided by Kit Fine in Fine (1999, 2020), by relating it to the notion of *qua* entity. Fine's view of *qua* entity is described as follows:

Given any object x and description (property) ϕ possessed by x , we shall suppose there is a new object x *qua* ϕ or x under the description ϕ . [...] Given such an object as x *qua* ϕ , we shall call x the *basis* and ϕ the *gloss*. (Fine 1982, p. 100, emphasis mine)

Qua entities are useful in our account for approaching the notion of 'on behalf of'. For example, when Mike Patton is singing as vocalist of the band Mr. Bungle, we have a *qua* entity whose

basis is Mike Patton and whose gloss is the property φ : ‘ x is the vocalist of Mr. Bungle’. When Mike Patton is playing with Faith No More, we obtain a *qua* entity whose basis is still Mike Patton, while the gloss is now φ' : ‘ x is the vocalist of Faith no More’. The two resulting objects are distinct, according to Fine, as the gloss are different non-equivalent properties.⁷

To denote a *qua* entity with basis a and gloss φ , Fine introduces the notation a/φ . Notice that a/φ is a new object, distinct from a . The idea of a *qua* entity has been extended in Ferrario et al. (2018), Fine (2020) and Brouwer et al. (2021) to *qua* entity whose basis is composed by a collection of entities.

In this case, we write $(a_1, a_2, a_3, \dots, a_n)/R$, where R is the gloss and $(a_1, a_2, a_3, \dots, a_n)$ is the collection of entities which forms the basis.⁸ To be a bit more general and precise in this presentation, we shall consider R to be a (relational) formula with n free variable.

So R could be intended by the open formula $R(x_1, \dots, x_n)$. The substitution of each x_i with a_i can be denoted by $R(x_1/a_1, \dots, x_n/a_n)$. This substitution returns $R(a_1, a_2, a_3, \dots, a_n)$, a closed formula which is apt to be deemed true at a certain time.

In principle, R can be a very complex relation, regarding the status, the roles and the relationships between the entities in $(a_1, a_2, a_3, \dots, a_n)$.

For example, consider the initial formation of Mr Bungle (around 1985): Mike Patton (mp), Trey Spruance (ts), Theo Lengyel (tl), and Jed Watts (jw). These four entities provide the basis of a collective *qua* entity: (mp, ts, tl, jw) . The gloss specifies the roles of the four members as well as the relationships between them, at a given time. For example, a gloss for Mr Bungle may be composed of the indication of who is playing what in the band (mr_b , for short), plus other information (indicated by R') about the band at that time (e.g., who is writing the music, who is leading, who is managing, who owns the drums, etc).⁹

$R = \text{Is_vocalist_of}(x_1, mr_b) \ \& \ \text{Plays_bass}(x_2, mr_b) \ \& \ \text{Plays_guitar}(x_3, mr_b) \ \& \ \text{Plays_drums}(x_4, mr_b) \ \& \ \dots \ \& \ R'$

Three important things are to notice here. Firstly, although this is a technical detail, the application of R to $(a_1, a_2, a_3, \dots, a_n)$ has to specify which argument of R applies to which of the a_i s. So in principle, $R(a_1, a_2)$ may not have the same truth value (at t) as $R(a_2, a_1)$. This aspect does not commit to viewing the collection $(a_1, a_2, a_3, \dots, a_n)$ as ordered; we might

assume that the gloss R specifies its application principles (provided that the language to define R is sufficiently rich).

Secondly, the gloss may be composed of properties that create *qua* entities, for instance, the property $\text{Is_vocalist_of}(x_1, \text{mrb})$ when applied to mp creates the new entity ‘Mike Patton *qua* vocalist of Mr. Bungle’.

Thirdly, there is an apparent circularity in our example, if we were to define the entity Mr. Bungle (a sort of *definiendum*) at time t in terms of a collective *qua* entity $(a_1, a_2, a_3, \dots, a_n) / R$ (a sort of *definiens*). The name *Mr Bungle* (mrb) occurs also in the gloss R (i.e., something that contributes to the *definiens* of the entity mrb). This example presupposes that we have already singled out the mrb entity. We shall address this point directly in Section 5.4.

We now turn to the discussion of rigid and variable embodiments. The theory of variable embodiments was originally developed by Kit Fine to offer an ontological understanding of objects that may change their components and their structure through time (cf. Fine, 1999). Fine’s theory was originally indented for (physical) objects, such as a ham sandwich, which is composed of, say, two slices of bread and one ham slice, or bunches of flowers (cf. Fine, 1999). The example of a bunch of flowers constitutes a collective entity in our jargon.¹⁰

The application of the theory of variable embodiment that we require here is focussed on collective *qua* entities, such as $(a_1, a_2, a_3, \dots, a_n) / R$, once we aim to establish an understanding of their existence over time.

Setting aside collective *qua* entities for the moment, we will now delve into the main aspects of the theory of rigid and variable embodiments.

A *rigid embodiment* is an entity which is obtained by means of a number of entities $a_1, a_2, a_3, \dots, a_n$ together with a relational formula $R(x_1, \dots, x_n)$ that may hold or not at a given time of $a_1, a_2, a_3, \dots, a_n$ (see the previous discussion of R). So, this definition corresponds to the one that we have presented for *qua* entities. The relation R is termed by Fine the *principle of rigid embodiment*. Given these two ingredients, a new entity is formed, the entity r , which is given by entities $a_1, a_2, a_3, \dots, a_n$ arranged according to R .

For example, a bunch of flowers at a given time t is formed by means of n entities, the flowers, arranged according to the relation B of being bunched together. Given $a_1, a_2, a_3, \dots, a_n$ and R , Fine defines the operation of forming an object out of $a_1, a_2, a_3, \dots, a_n$ and R and denotes by $(a_1, a_2, a_3, \dots, a_n) / R$ this new entity.¹¹

The operation is constrained by means of a few principles; here we only discuss a weak version of (R1) (cf. Fine, 1999, p. 65), that we indicate by (R1'').

(R1'): If the rigid embodiment $(a_1, a_2, a_3, \dots, a_n)/R$ exists at time t , then R holds of $a_1, a_2, a_3, \dots, a_n$ at t

A major difference with the (R1) of Fine is that we take only one direction of the biconditional (R1). That is, while we impose that for $(a_1, a_2, a_3, \dots, a_n)/R$ to exist, $a_1, a_2, a_3, \dots, a_n$ must exist at t and R must hold of $a_1, a_2, a_3, \dots, a_n$ at t . We do not impose the other direction, that is, that any collection of objects arranged according to any relation constitutes an object. The main reason is that we do not need here such an assumption, as we shall discuss in Section 5.4 it is the role of the interpreter to commit to the existence of those entities.¹²

For rigid embodiments, the intuition is that components, or parts, of an object and their connections cannot change through time. That is, the relation R holds of $a_1, a_2, a_3, \dots, a_n$, at each time the rigid embodiment exists. Moreover, a rigid embodiment r cannot survive the replacement of one of its components – or a different arrangement of them – in the sense that, in such a case, we have an entity which is no longer r . An example of rigid embodiment discussed in Fine (1999) is that of a molecule: the components are the atoms of the molecule, while the relation R specifies the arrangement of atoms in a molecule (e.g., the chemical bonds). In this case, by replacing, removing or adding an atom we may obtain a different molecule. This point is evident, once we introduce the identity condition of rigid embodiments (see the refined postulate (R3') in Fine (1999, p. 66).

(R3') The rigid embodiments $(a_1, a_2, a_3, \dots, a_n)/R$ and $(b_1, b_2, b_3, \dots, b_n)/Q$ are the same iff the state of $a_1, a_2, a_3, \dots, a_n$ being in relation R is the same state as the state of $b_1, b_2, b_3, \dots, b_n$ being in relation Q .

Notice that the identity condition for rigid embodiments (i.e., objects) rests on an identity condition for states (i.e., not objects¹³). The main motivation for appealing to states is to capture the equivalence between relations R and Q .

In Fine's idea, two states are the same only if they have the same participants. Thus, principle (R3') implies $a_1 = b_1, a_2 = b_2, \dots, a_n = b_n$. Moreover, by appealing to states, we are taking care, at least implicitly by relying on the identity of states, of the possible equivalence of relations R

and Q : they are equivalent whenever they produce the same states when applied to the same entities.

We turn now to discussing variable embodiments. *Variable embodiments* are introduced in Fine (1999) to understand (possibly even radical) changes that an object can endure without ceasing to exist.

A *variable embodiment* is obtained by means of a principle F which picks, at any given time, a rigid embodiment. The principle F can be construed as a (partial) function from (a set of) times t^{14} to entities that are rigid embodiments.

For example, take again the Mr Bungle case. We can elicit a principle F that accounts for the change in members, when Jed Watts was replaced by Hans Wagner in 1987.¹⁵

$$F(1985) = (mp, ts, tl, jw) / R.$$

...

$$F(1987) = (mp, ts, tl, hw) / R'.$$

...

Once a principle is selected, a new object can be created, which is denoted by Fine by $/F/$: F is the principle of variable embodiment, whereas $/F/$ is the object created by means of F .

Notice that the principle F is partial, that is, it does not associate any objects to years before 1985 (when Mr Bungle did not exist).

The operation of forming an entity from a principle of variable embodiment is governed by means of several axioms. Here, we focus on two axioms, which establish the conditions for existence and identity of variable embodiments.

(V1) $v = /F/$ exists at t if and only if it has a *manifestation* at t , that is $f(t) = (a_1, a_2, a_3, \dots, a_n)$ $/R$, for some entities $a_1, a_2, a_3, \dots, a_n$ and some relation R .

(V3) The variable embodiments $/F/$ and $/G/$ are the same iff their principles F and G are the same.

For (V1), we are keeping the original formulation in Fine (1999, p. 70). The identity condition in (V3) relies on the identity condition for (partial) functions. To elaborate, this implies that

two variable embodiments coincide if and only if they exist at the same times and, for every moment of existence, they have the same manifestations.

The application of the definitions of rigid and variable embodiments to collective *qua* entities is straightforward, as Fine's definition of *qua* entity is quite general and embraces any relation. Therefore, rigid embodiments represent *qua* entity at a time slice, or *qua* entities that cannot change through time with respect to their basis and their gloss, while variable embodiments represent *qua* entities that can change their basis and gloss through time.

A complication arises when we also aim to incorporate the theory of parthood that comes with variable embodiments. In Fine (1999, cf. postulate (R6), p. 67), the parts of a rigid embodiment $(a_1, a_2, a_3, \dots, a_n)/R$ are the parts of the a_i s. When interpreting $(a_1, a_2, a_3, \dots, a_n)/R$ as a *qua* entity, we may wish to use a specific relation that connects the *qua* entity to the a_i s, rather than the standard notion of part (e.g., that axiomatised by means of the General Extensional Mereology). For example, we can represent Mr Bungle (*mrb*) at t by means of the rigid embodiment: $(mp, ts, tl, jw)/R$. If the standard parthood is the relation connecting *mp* and *mrb*, by transitivity of standard parthood, we would infer that any part of Mike Patton (at t) is a part of Mr Bungle at t . This might be counterintuitive, or it would suggest to use, besides parthood, a relation *member of* which fails to be transitive. We leave this issue for a dedicated work.

The theoretical understanding of bands proposed here is to view them as variable embodiments of collections of entities. This view was originally developed in Uzquiano (2018), Ferrario et al. (2018) and in Brouwer et al. (2021) to provide an ontological understanding of the ontology of organisations.

So, for instance, Mr Bungle are represented by means of the following principle of variable embodiment.

$$F(1985) = (mp, ts, tl, jw) / R^1$$

$$F(1986) = (mp, ts, tl, jw) / R^2$$

$$F(1987) = (mp, ts, tl, hw) / R^3$$

$$F(1988) = (mp, ts, tl, dh) / R^4$$

$$F(1989) = (mp, ts, tl, dh, cmk) / R^5$$

...

$$F(1996) = (mp, ts, tl, dh, cmk, tl) / R^6$$

...

$$F(2004) = (mp, ts, tl, dh, cmk, tl) / R^7$$

The principle F shows that Mr Bungle continuously existed from 1985 to 2004, when their breakup was officially announced. In 1987 and 1988, a member was replaced. In 1989 and 1996, new members joined the band. We opted to add apexes to the relation R not to commit to the assumption that the relation remains the same at every time of the band's existence, which might not be the case. Notice also that when the collection of members changes, the relation must change accordingly.

Continuous existence is not required by the definition of variable embodiments. For instance, if we wish to write a principle of variable embodiment for the band Faith No More, we shall pose that F is defined from 1979 to 1998 and then from 2009. For this reason, it is important for our purposes that F is a partial function.

The case of Faith No More is also interesting for another reason. From 1979 to 1983, the band performed under the names *Sharp Young Man* and *Faith No Man*. The possible change of name is something that can be accounted by means of the change in the gloss R .

The application of variable embodiments to bands allows for easily accommodating many aspects of the existence of bands in time. Firstly, by viewing bands as variable embodiments of collective entities, the basis can change in time, accommodating the quitting, entering or replacement of members of the band. Secondly, variable embodiments allow for changing the relation R in time, so the structure, the roles, the instruments, the name and the connections between the members can also change in time.

The view of bands as variable embodiments, however, is not sufficient to fully capture bands, or organisations, for the following reason. Consider a principle of variable embodiment F which is constructed as follows. From 1979 to 1988, it coincides with the principle that describes the Faith No More. Then, when Mike Patton also jointed in 1988, F associates, to each time, a rigid embodiment composed of: *i*) as basis, the union of the collection of members of Mr Bungle and Faith No More at t ; *ii*) as gloss, the conjunction of the glosses of Mr Bungle and Faith No More at t . For example, in 1988, the corresponding rigid embodiment is represented by:

...

$$F(1988) = (mp, ts, tl, dh, jm, bg, mb, rb) / R \ \& \ Q \text{ (s.t } R(mp, ts, tl, dh) \text{ and } Q(mp, jm, bg, mb))$$

...

The first four elements of the basis mp , ts , tl , dh are the members of *Mr Bungle* in 1988, while the other elements represent Jim Martin, Bill Gould, Mike Bordin and Roddy Bottum who, together with Mike Patton, formed Faith No More in 1988. The gloss R & Q includes a description of the roles of the players of Mr Bungle and of Faith No More in 1988. This is a legitimate example of a variable embodiment and, by principle (V1) of Fine (1999, p. 70), the object corresponding to this F exists. This is not *per se* an ontological problem, if one is fine with admitting, for instance, arbitrary sums of entities. However, the point is that the principle of variable embodiment is not capable alone of distinguishing a single band from an amalgam of more than one band. This observation holds, if we do not put severe constraints on the glosses R and Q , which might be capable of excluding these amalgam cases.

However, instead of working out a solution by constraining the possible glosses, we prefer to pinpoint the reason, or at least one reason, why the amalgam of Mr Bungle and Faith No More is not a band. In the perspective of this chapter, the reason is that the aggregate is not an agent: it might have distinct conflicting goals, it may entertain inconsistent corporate attitudes, it might perform incompatible actions, its behaviour can hardly be rationalised by means of a single utility function and so on. This is not the sole method of segregating the amalgamation of two bands into distinct entities: one could also rely on average spatial and temporal proximity among members as a means of distinguishing the two bands. However, we have chosen to emphasise that agency serves as the criterion that individuates a band, accomplishing two goals at once: accounting for the individuation principle of bands and simultaneously addressing their agency.

5.4. Collective Level Radical Interpretation

In this section, we offer a framework that integrates the attribution of agency and corporate attitudes to a collective agent, along with an understanding of its temporal existence modelled through variable embodiments.

We will employ the strategy of introducing a radical interpreter, whose role is to elucidate a possible set of conditions that allow for the identification of a collection of entities as an agent, and, more specifically, as a band.

The utilisation of the radical interpreter's approach was previously applied in Brouwer et al. (2021) to establish the conditions that allow us to construe a collection of entities as an organisation persisting over time. Here, we will adapt this approach to musical bands and emphasise the distinctiveness of this undertaking.

Interpretationist perspectives were initially employed to clarify the determination of the content of language and thought by utilising a philosophical approach known as radical interpretation. Here, we focus on the interpretation of agency. We simplify a bit, by focussing on two styles of interpretationism. The first style derives from the work of David Lewis (1974) and has recently been further developed by Robbie Williams (2016, 2020). The other version of interpretationism originated in Dennett and was applied by Deborah Tollefsen (2002) as a basis of collective intentionality. We cannot account for all the aspects that separate Williams' and Tollefsen's versions of interpretationism; we only highlight three crucial points.

Firstly, while for Lewis and Williams the interpreter is a philosophical device and not a real agent who is performing an interpretation – the interpreter is indeed an abstract interpretation function –, for Tollefsen there is in fact a real agent, an interpreter, who is embracing a certain interpretation practice. Secondly, Williams' idealised interpreter possesses complete knowledge of the observable facts about the interpretee, whereas Tollefsen's interpreter does not. We propose interpreting these two points as a contrast between the presence of potentially distinct interpreters in Tollefsen's perspective, each with different practices of interpretation and possibly varying responses, as opposed to the assumption that interpretation is meant to be univocal, as per Williams. As we will soon discuss, this point is connected to the question of the mind-independence of bands.

The third point of departure between the two views is that while Lewis and Williams are willing to regard the abstract interpretation function as a tool to substantiate metaphysical claims about agency and intentionality, Dennett and Tollefsen employ the device of interpretation precisely to sidestep making metaphysical assertions. In this chapter, we do not intend to adopt a stance on these three points or fully embrace one of the two versions of interpretationism. However, we will discuss the implications of each position for the ontology of bands. Interpretationism about agency is clearly described by Tollefsen as follows:

Interpretationism is the view that if an agent is interpretable, the agent is an intentional agent. [...] It is an approach to intentionality that starts not with

metaphysical speculations about the nature of the mental, but with our practice of attributing intentional states. It asks, what are the constitutive features of our practice that guarantee its explanatory power? That is, what assumptions do we need to make about an agent in order to interpret her behavior successfully? (Tollefsen 2002, p. 397)

Williams' version of interpreting agency aligns with the task, yet it diverges in terms of the status of the claims resulting from the interpreter's output. Bringing together the rationality constraints we discussed in Section 5.3, which are necessary for agency-based descriptions, the interpreter's task can be summarised as follows: an interpreter can attribute agency to an entity whenever its behaviour can be described as exhibiting a modicum of synchronic coherence, and its actions can be characterised as those of an entity that seeks to maximise the utility of realising specific states.

In the process of radical interpretation, we envision an idealised interpreter who possesses access to fundamental facts concerning the individuals being interpreted and their circumstances. In this sense, the interpreter is closer to Lewis and Williams' version. These facts encompass everything that does not presuppose the target facts (which are facts about the alleged agency of the collective entity). The interpreter is knowledgeable about the interpretee's physical attributes, spatial and temporal locations, behaviour (including sounds, actions, and gestures) and the environment in which they operate. However, when it comes to grasping the agency of the interpretee, the interpreter commences from a blank slate, giving rise to the term *radical*, in the phrase radical interpretation, in the sense of *from the roots*.

The result of the interpreter's endeavour is a *theory*, specifically for Williams, the most optimal theory concerning the interpretee. This theory, chosen from the range of possible theories, serves to best elucidate the available facts.¹⁶ By contrast, we assert, for Tollefsen's there is no assurance that the optimal theory is unique.

We illustrate the task of the interpreter who is trying to classify a collection of entities as a music band through the use of an abstract example.

Suppose that the interpreter is temporally located at time t (t can also be an interval) and observes a collection of entities, say $(a_1, a_2, a_3, \dots, a_n)$, each producing sounds during t .

We can envision that this moment marks the beginning of the band's members gathering and playing together. Regarding each entity in the collection, the spatial location, whether they are

human beings or, say, software agents, the sounds that they make, are all facts that the interpreter knows. The interpreter is also aware of the individual actions that each member undertakes, as long as these actions do not presuppose acting on behalf of a collective.¹⁷

We can also assume that, for example, it knows whether an individual agent is playing an instrument or fixing a chair, and that it is knowledgeable about sounds, noises, or music.

Furthermore, the interpreter can access the relationships among the elements of the collection, such as the spatial and temporal connections among members, temporal subsequence or overlap of individual actions, and correlations among individual actions. In other words, the interpreter can form assumptions regarding the coordination among individuals' actions.

At a subsequent time t' , the interpreter observes the members of the collection ceasing to produce sounds. Each member moves to a separate location and engages in distinct events (e.g., driving back home). After a period of time, the interpreter observes the members of the collection reassembling, producing sounds in possibly overlapping time intervals, and resuming actions in a manner interpreted as akin to their activities at time t .

The interpreter might observe that when the members collaborate to produce sounds, they tend to refer to their actions using a collective name. Alternatively, if this is not the case, the interpreter forms a hypothesis to differentiate actions performed during their gatherings from actions undertaken by individuals that are unrelated to the collective activity. That is, in any case, the interpreter introduces a name, let's say b , to label the collective.

As the interpreter observes the behaviours of the collective's members over a period, a *theory* regarding these entities begins to take shape. The theory can take the form of a complex relational formula about $(a_1, a_2, a_3, \dots, a_n)$, describing what is happening at t , that is, $R(a_1, a_2, a_3, \dots, a_n)$. The theory includes hypothesis of the type 'when they are together, a_1 is usually playing bass in b ', 'when a_1 plays bass, usually a_2 plays drum in b ', and so on. Through trials and errors, as well as by leveraging the facts about the behaviours of the entities of the collective, the interpreter is eliciting what actions of the individual members are related to the activity of the collective. That is, the theory assigns roles to the members, by creating a *quantity* $(a_1, a_2, a_3, \dots, a_n) / R$ to account for the activity of the collective at t .

By observing the behaviour of the collective's members, the interpreter evaluates whether the collective demonstrates agreement on certain matters or shows a tendency to act in pursuit of specific outcomes. Consequently, the interpreter begins attributing collective attitudes and joint actions to the entity as a whole. Additionally, the interpreter can analyse how consensus is reached among individuals or how dissent is expressed, assessing the coherence

of the attitudes attributed to the collective entity. Through observation of the behaviour of individual members of the collective, the interpreter can hypothesise a utility function defined on certain states related to the presence of collective members. This utility function can elucidate how the actions of individual members can be interpreted as collective actions. If the actions of the collective are compatible with the attempt of maximising this utility function, then the interpreter begins to view the collective as displaying intentionality and agency.

As a result, the interpreter starts to conceive of the collective as an agent and to attribute corporate attitudes to it. For instance, upon characterising the band's behaviour in intentional terms, the interpreter might attribute intentions related to live performances, recording sessions, travel, interviews, instrument procurement and more. In a similar vein, the interpreter could attribute beliefs, such as acknowledging the readiness of new songs for recording, or desires, like the aspiration to perform in Rome. Based on observations of attitudes, actions and behaviour, the interpreter can categorise the collective agent as a *musical band*, given that its principal pursuit revolves around music production.

The interpreter also infers the collective's mode of persistence over time by considering the changes the collective undergoes at each time t . In other words, the interpreter defines the partial function that establishes the principle of variable embodiment F .

During the process of interpreting the collective agent over time, the interpreter might observe changes among the members of the collective or in their relationships. Consequently, the interpreter acknowledges these changes by documenting, for each time t , the developments affecting the entities that comprise the collective agent and the theory expressed by R .

When the behaviour of the collective agent is no longer described in terms of corporate attitudes or the pursuit of utility maximisation (i.e., when intentionality ceases), the interpreter may discontinue considering the collective entity as an agent. Consequently, in such instances, the band ceases to function as an agent.¹⁸

The ultimate outcome of the interpreter's endeavour is (the) an optimal theory that explains the collective's behaviour, which assumes the form of a principle of variable embodiment.

There are several aspects to discuss in this abstract portrayal of a band's narrative.

Firstly, the set of facts required by the interpreter to formulate a theory about a band can easily be more intricate than those demonstrated in our simple narrative example. For instance, consider the intriguing case of The Residents: in their situation, details such as the members' identities, roles, turnovers and even their numbers have never been revealed.¹⁹ In

this case the interpreter cannot depend on facts about the individuals (e.g., facts about the basis of the *qua* entity). In principle, The Residents could incorporate artificial agents as members of the band. This example illustrates that determining the precise set of facts that are necessary and sufficient for classifying collective entities as bands can often be challenging.

Secondly, note that the commitment to the existence of the band is grounded in Fine's principle (V1) of variable embodiments, provided the relevant *qua* entities exist. The role of the interpreter is to select the optimal principle of variable embodiment F , while the existence of $/F/$ is inferred independently of the interpreter's activity. The interpreters' ontological authority lies in deciding the existence of the *qua* entities $(a_1, a_2, a_3, \dots, a_n)/R$, at each time t (since we abandon principle (R1) in Fine (1999), cf. Section 5.3), and their types. In particular, the interpreter has to decide whether the arrangement R of $a_1, a_2, a_3, \dots, a_n$ can be legitimately conceptualised as an entity, an organisation, a band, or merely as a set of individual attributes. This is a way to circumvent, at least for the case of *qua* objects, the unnecessary proliferation of entities. On the other hand, at each time t of the band's existence (as variable embodiment), two distinct entities coexist: the band as a variable embodiment and the band as the *qua* entity at t . This may seem like an unnecessary proliferation; however, it directly follows from Fine's theory and signifies that whenever the variable embodiment exists, its distinct temporal segments also exist.

Finally, agency is not required for variable embodiments. In the band's inception, for example, when a few friends begin to gather, play together and attempt to form a band, they might fall short of exhibiting the intentional structure necessary for agency. However, even at this juncture, a *qua* entity corresponding to the band could still exist. Furthermore, if the group of friends never actually forms a band—for instance, if we merely witness recurrent gatherings of unrelated individuals in someone's garage—we can still interpret this as a variable embodiment. From the existence of the partial function and its manifestations in time, by (V1), the variable embodiment, exists. Nevertheless, it is likely that this scenario will not satisfy the prerequisites for collective intentions and agency.

An inquiry may arise as to whether every fully agentive band possesses an initial time segment, marking its inception, during which the collective lacks agency. By the same reason, every fully agentive band must eventually cease to be agentive at a certain point.

The question at hand revolves around whether the non-agentive temporal segments of the band should be considered as part of the band's lifespan, or if formal establishment and

disbandment on specific dates, such as upon recognition of agency, are necessary. Presently, no compelling intuitions favour either option; hence, we choose not to exclude any possibilities.

This issue is intertwined with the nature of agency ascriptions. If these ascriptions are rigid, signifying that an agentive entity must possess agency throughout its entire existence, then the prospect of a band transitioning from non-agentive to agentive (and vice versa) must be eliminated. Consequently, we would need to perceive the band's lifespan as commencing and concluding with its agency.

5.5. How Ideal Is the Radical Interpreter?

We conclude our discussion by addressing the contrast between the perspectives of Williams and Tollefsen concerning the interpreter and the potential implications this disparity might hold for the ontology of bands.

Williams' interpreter has been adopted in Brouwer et al. (2021) to model organisations, aiming to establish ontological assertions about the existence and the nature of organisations as legitimate (social) entities within our ontology. If the result of the interpreter is unequivocal – namely, if a single principle of variable embodiment is selected to describe the life of an organisation – then this entity becomes a recognised member of our ontology.

The unicity of the interpreter's outcome plays a crucial role in affirming the existence of organisations as entities mind-independent or, here, independent of interpreters. However, if two interpreters, let's denote them as *I* and *J*, validly propose two distinct principles of variable embodiments, we are compelled to acknowledge the existence of two separate entities: the organisation according to *I* and the organisation according to *J*.

Within the application to music bands, the perspective of the idealised interpreter encompasses the concept of a flawless consensus regarding the essential criteria necessary for categorising something as a band. Specifically, it presupposes accord concerning the definitions of music and playing. In our abstract depiction of the interpreter's process, as detailed in the previous section, the interpreter demonstrated the ability to differentiate playing a musical instrument from other forms of actions. Without a consensus on the definition of music, it becomes challenging to conceptually distinguish a band of musicians from, for instance, a collective of carpenters who routinely publicly convene to collaboratively construct furniture. Hence, the determination of what constitutes music must fall within the scope of the

interpreter's capabilities. This challenge emerges when we delve into the subtyping within organisations. Both a music band and a group of carpenters fall under the type of organisations. The challenge materialises when we wish to determine the specific category to which each organisation belongs.

The perfect agreement about music, or about all the facts concerning bands, could present a challenge, especially when accommodating a substantial level of divergence concerning the demarcation between music and noise, or the differentiation of various musical genres and styles (consider, for instance, industrial or ambient music), or about the origins and the life of the band.

In order to accommodate divergent interpretations of music, it becomes necessary to depart from Williams' idealised interpreter and adopt Tollefsen's perspective, to allow room for interpreters who can possibly disagree. However, this move comes with the cost of populating the ontology of interpreter-dependent entities. If several principles of variable embodiment $F_1, \dots, F_n$ are selected, then by (V1) the corresponding objects $/F_1/, \dots, /F_n/$ exist. Stating that two principles are different implies that either they disagree on the life of the band (e.g., its origin and ending) or that they disagree on the *qua* entities associated, for at least one time (e.g., they describe different arrangements of the band at a certain time).

This is a challenge that we do not address here. Potential solutions appear to either embrace interpreter-dependent band entities or necessitate blocking or refining (V1). The first direction can turn music critics' debates, such as those on what constitutes the 'real' Pink Floyd, into an ontological dispute. The second direction would require the existence of variable embodiments only when sufficient agreement among the interpreters is reached. An interesting approach suggests that a unified $/F/$ can emerge from different principles of variable embodiment $F_1, \dots, F_n$ only through a sufficient agreement among the interpreters, or, in presence of disagreement, through the integration, or aggregation, of the F s of the various interpreters into a single consistent F . This process of reaching an agreement suggests intriguing connections with a general theory of Judgment Aggregation (cf. List and Pettit, 2011, Dietrich and List, 2010).

Notes

¹This paper builds upon the theory of organisations developed by Brouwer et al. (2021). The contribution of this article extends the framework of Brouwer et al. (2021) by adapting the theory to the context of music bands and engaging in a discussion of the ontological aspects related to bands. Furthermore, a departure from the approach presented in Brouwer et al. (2021) occurs in Sections 5.4 and 5.5, where the examination of the interpreter's role is intertwined with the ontological implications stemming from variable embodiments.

² As is clear from the next paragraphs, we do not commit to the idea that propositional attitudes are ascribed exclusively to fully fledged agents. This view can be traced back to Dennett's intentional stance (cf. Dennett, 1971). Throughout this paper, we embrace Dennett's stance, thus when we use the term 'intentionality' we do not intend it in a thick form.

³ We are not stepping into the complex debate surrounding the nature of collective entities here. However, for the purpose of this paper, this level of discussion is adequate. We will revisit this point when we discuss the variable embodiments of collective entities in Section 5.4.

⁴ These assumptions deserve an in-depth dissertation which is unfortunately outside the scope of this work.

⁵ For the sake of exemplification, we often reference Mr. Bungle and Faith No More, which demonstrate an interesting change in member formation. For more information about these bands, refer to Prato (2013).

⁶ The case of a solo in a song is also intriguing. Let's consider a solo in a very strict sense: one instrument is playing, while the other instruments are silent. One could interpret the negative action of not playing as a positive action of pausing, held for the required number of measures.

⁷ To properly understand when two properties are different is delicate. Imagine two glosses 'x plays bass and sings' and 'x sings and plays bass'. We shall see the solution offered by Kit Fine in the next paragraphs when we discuss rigid and variable embodiments.

⁸ We use the term 'collection' to be more general than sets, pluralities, lists, mereological sums, etc. We do not enter the discussion about what type of collection $(a_1, a_2, a_3, \dots, a_n)$ is. That is, we do not wish to decide whether the collection is a set, a mereological sum, or a plurality. At this level of analysis, this suffices to address the problems of viewing social groups as sets (cf. Ritchie, 2015). The usual problems of set-theoretic views of groups, such as the rigidity of membership and the co-existence of distinct groups with the same members, are not a worry here, thanks to the variable embodiment mechanism. Also, in principle, abstract constraints provided by the gloss R could specify the nature of the collection. From an operational perspective, $(a_1, a_2, a_3, \dots, a_n)$ can be viewed as a list of elements, to facilitate the substitution of each x_i with a_i .

⁹ An interesting point is to decide the boundaries of the band. E.g., do we consider the manager of the band a member of the band? Are the instruments part of the band? Inquiries of this kind have been discussed, for the case of organisations, in Brouwer et al. (2021).

¹⁰ It is not straightforward to clearly separate a collective entity from a composed entity. E.g., a bunch of flowers, intuitively a collective entity, and a composite entity, such as a carburettor. For a formal theory addressing this issue, we refer to Masolo et al. (2020).

¹¹ Notice that this operational step is required to construct an object from a collection of entities and from something like R , which possesses a predicative and non-objectual nature.

¹² Another reason is the critique offered in the setting of plural logic in Uzquiano (2018).

¹³ We refrain from delving into the debate about the ontology of states at this point. In a broad sense, we consider them to be subtypes of events that occur in time and involve participants.

¹⁴ We also avoid committing to a view of time here. At this level of analysis, a set of partially ordered time indexes suffice, although, when discussing music and action, a time intervals structure seems more appropriate.

¹⁵ For the sake of simplification, we utilise years as time index. Additionally, dashed lines represent moments at which the variable embodiment is defined.

¹⁶ The concept of an optimal theory is intertwined with the challenge of *theory selection* in philosophy of science. It is not immediately evident that the interpreter's endeavour, even within Williams' framework, will yield a singular theory. For the sake of simplification, we will proceed under the assumption that it does.

¹⁷ We are assuming that the interpreter of the collective is capable of ascribing agency at the individual level.

¹⁸ Notice that the variable embodiment ceases to exist when it fails to have a manifestation.

¹⁹ For information about The Residents, see Shirley (2015).

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